

REMARKS

Support for the claim amendments and new claims is set out on the first page above.

The language of the claim amendments is supported by amendments to the specification.

The claims were rejected under § 102 as being anticipated by Yamashita '493 and Farnworth '624, and were rejected under § 103 as being obvious over Yamashita, Farnworth, and Aiba '728. These rejections are respectfully traversed.

(1) None of the applied references discloses the features added to independent claims 14 and 16, namely, the registration mark being located outside the area covered by resin (i.e. in the claimed second region), which permits the holes made in the resin to be accurately placed. If the entire substrate were covered with resin, alignment of the holes would be very difficult because then only the edge would be available for alignment.

This advantage is augmented by the subject matter of new claims 24 and 25, under which the registration mark is itself part of the metal pattern to which the holes must be aligned, thus eliminating the errors involved in locating either the mark and/or the metal pattern onto the substrate. The subject matter of these new claims also is not disclosed.

Yamashita discloses a structure somewhat like the Applicant's, but discloses no method that would anticipate the Applicant's claims. Yamashita presents a method contrary to the Applicant's. The vertical electrode members 17 are not formed inside holes made through the resin, but are already fixed in position when the resin is poured (col. 8, lines 18-49 and col. 5, lines 48-58), so that their tops protrude (col. 6, line 1).

Thus, the reference does not disclose the claimed steps of forming a hole, and then forming a wire inside the through hole.

No registration marks are found in this reference.

Farnworth shows conductive vias and briefly describes how they are formed, at col. 4, line 49; col. 6, lines 4-41; col. 8, lines 22-31; and col. 10, lines 7-14. But in these passages there is no mention of registration marks, various different regions, or registration marks outside of a wiring region.

Figs. 5 and 7 include views that are plan views, like those of the Applicant's Fig. 6. However, no registration marks are seen in these views of Farnworth.

Aiba is applied against claims 20 and 23, for disclosing a fourth wire. The Applicant notes that Aiba, like Yamashita, discloses forming the posts first and then potting them (col. 7, lines 38-45) and therefore it cannot anticipate the Applicant's independent claims. No registration marks or different regions are found in this reference.

Thus, no combination of the applied references (not admitted obvious) would reach the Applicant's claims.

September 6, 2005
Date

Respectfully submitted,



Nick Bromer (Reg. No. 33,478)

(717) 426-1664

RABIN & BERDO, P.C.

CUSTOMER NO. 23995

Telephone: (202) 371-8976

Telefax : (202) 408-0924